

# Database System Providing High Performance Database Versioning

## Abstract

A database system providing high performance database versioning is described. In one embodiment, for example, in a database system employing a transaction log, an improved method of the present invention is described for restoring databases to a consistent version, the method comprises steps of: providing a shared cache storing database blocks for use by multiple databases; for a read-only transaction of a given database, creating a cache view of the shared cache using the given database's transaction log, the cache view comprising particular database blocks of the shared cache that record a view of a particular version of the database at a given point in time; creating a shadow cache for storing any database blocks that overflow the cache view; and in conjunction with the cache view and the shadow cache, preserving a logical undo operation for the read-only transaction of the given database, so as to allow the given database to be restored to a transactionally consistent version upon starting the read-only transaction.